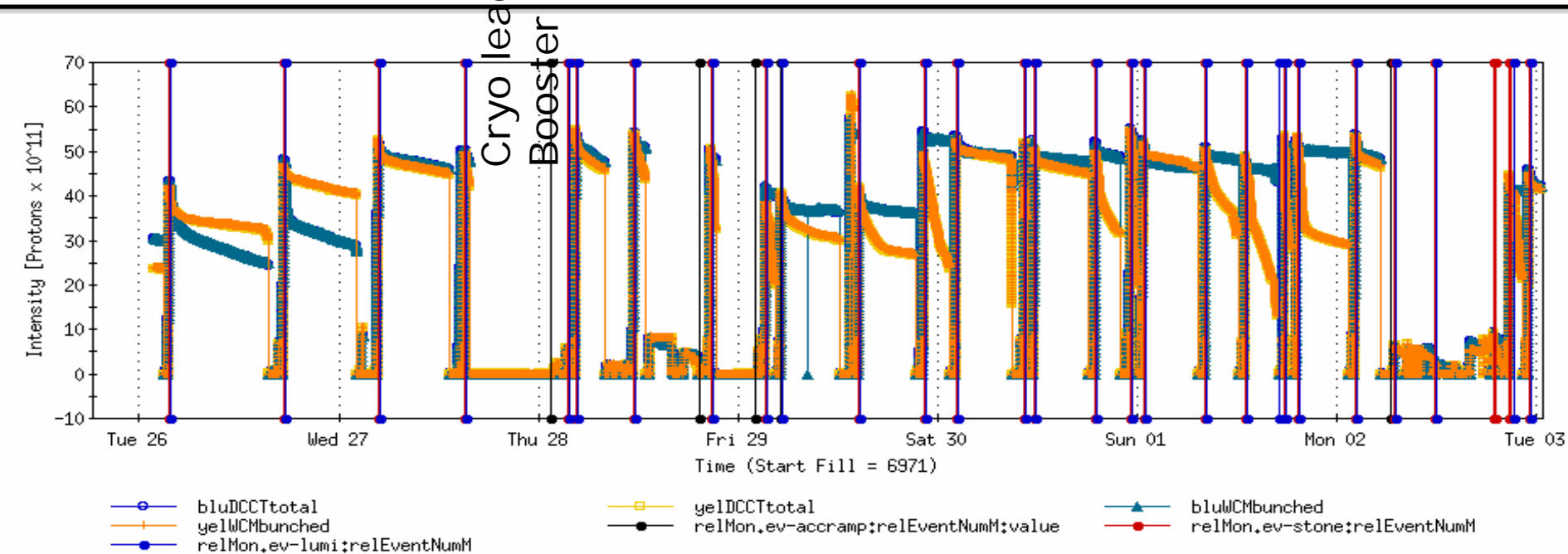
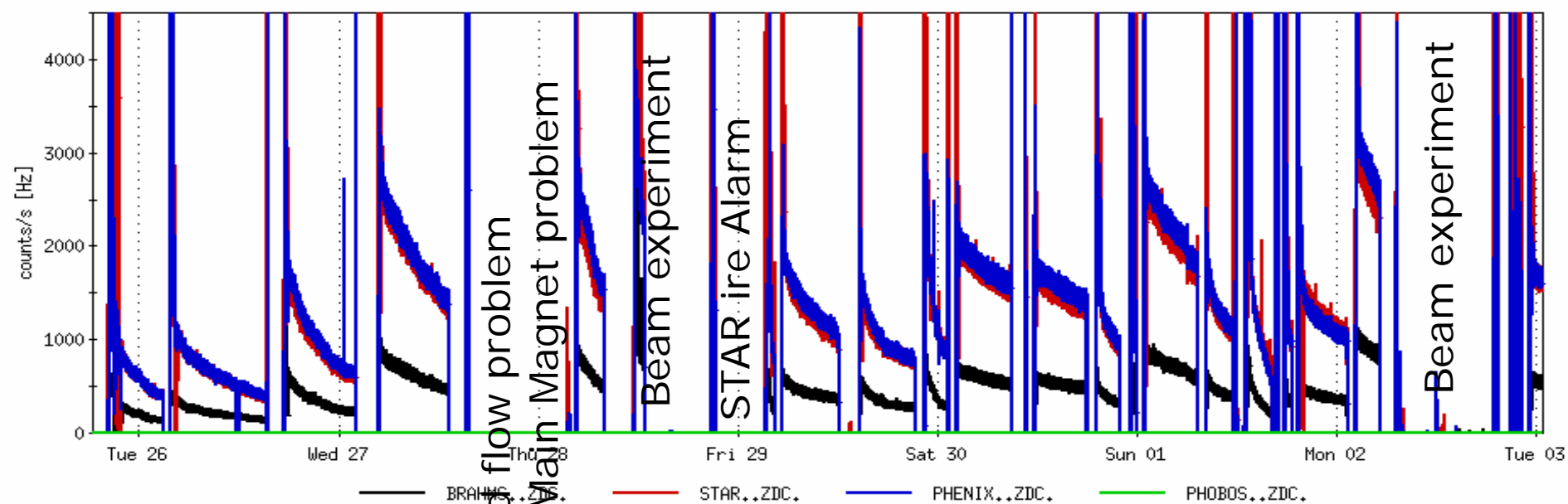


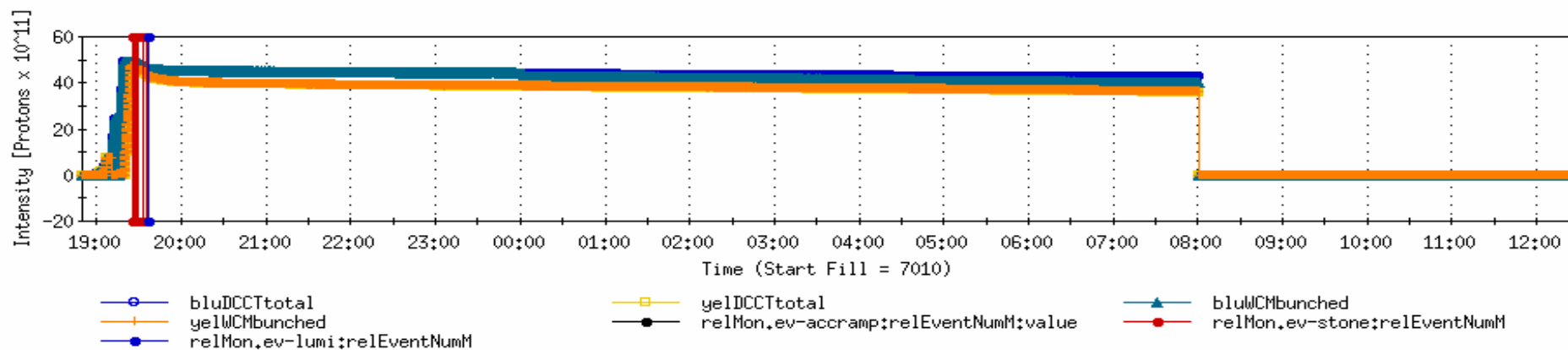
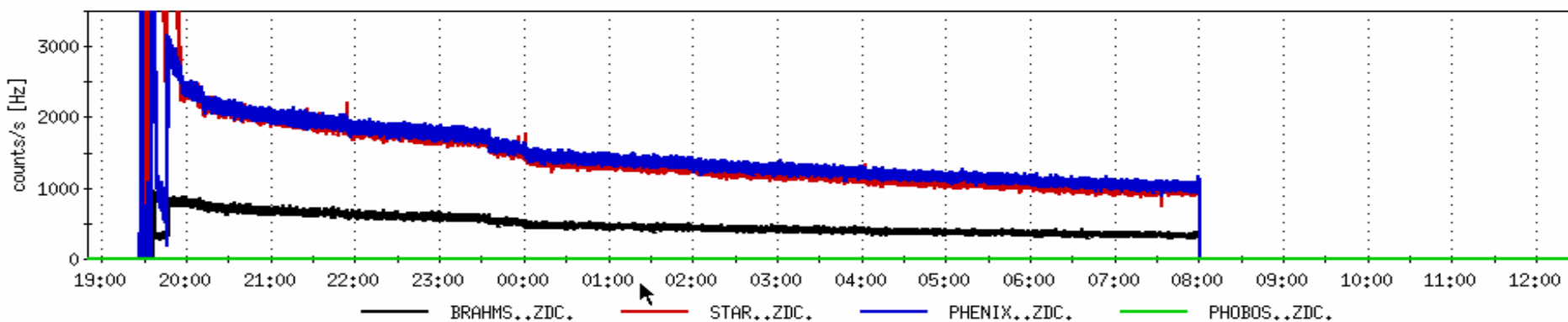
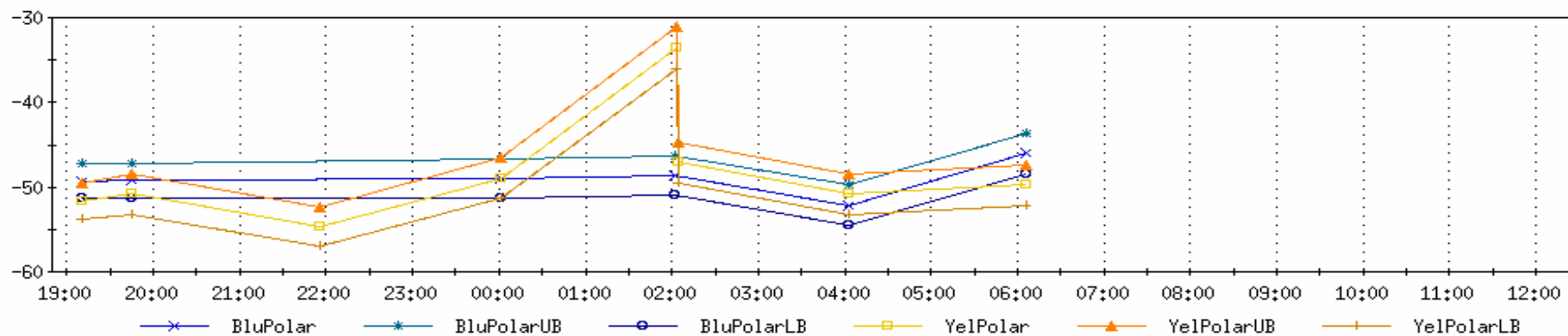
RHIC pp Status

<http://www.agsrhichome.bnl.gov/AP/Spin2005/>



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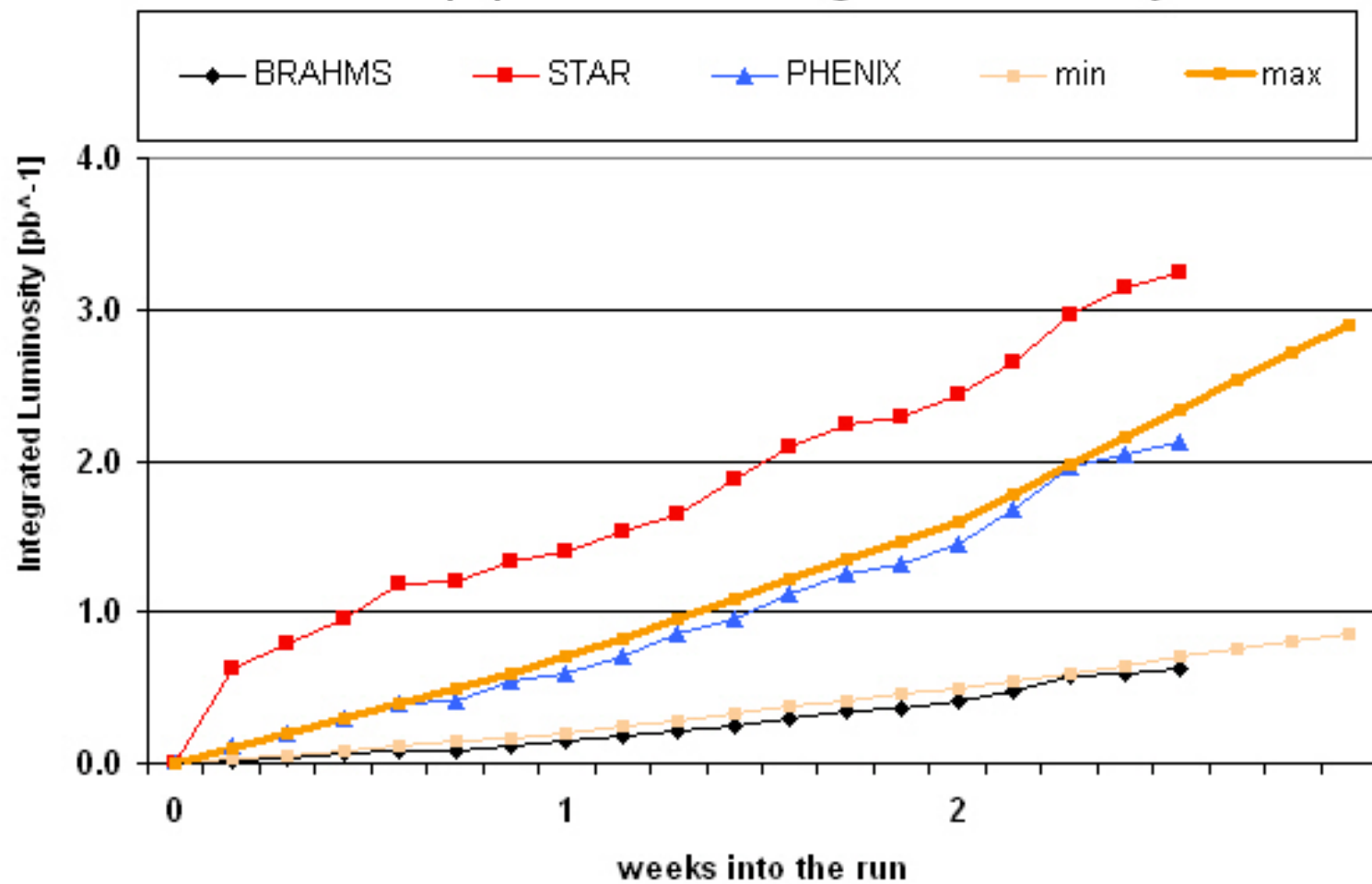
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FY04 RHIC p^p Delivered Integrated Luminosity



Status

- Luminosity achieved:
 - 56x56, 1.0×10^{11} bunch intensity
 - Peak luminosity: ZDC 4kHz $\sim 1.02 \times 10^{31} \text{cm}^{-2}\text{s}^{-1}$
 - Good lifetime
- Polarization achieved at store: $\sim 45\%$
 - CNI ready for 120 bunch mode

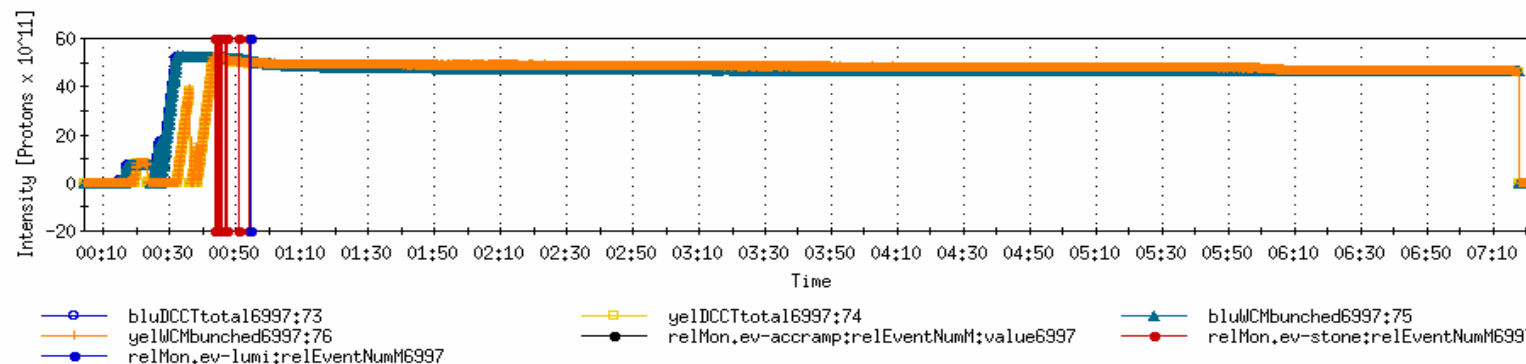
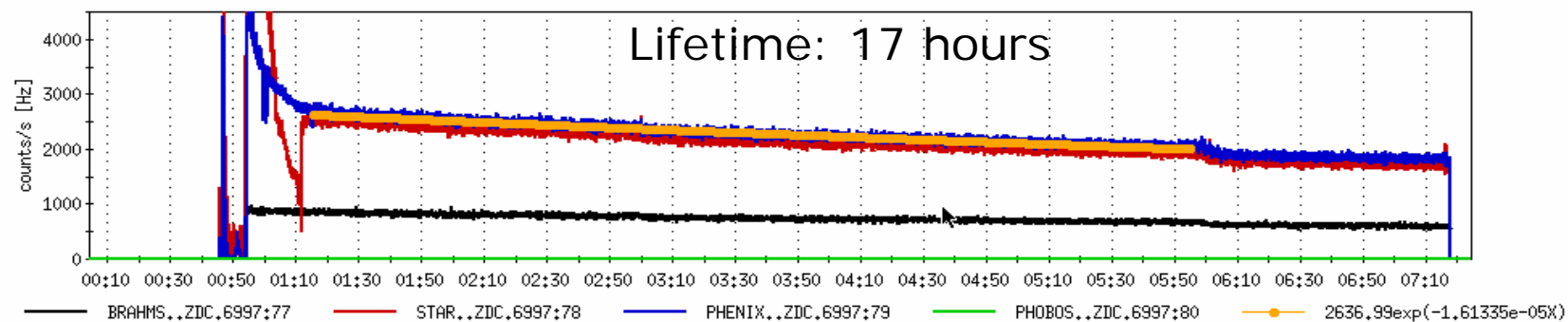
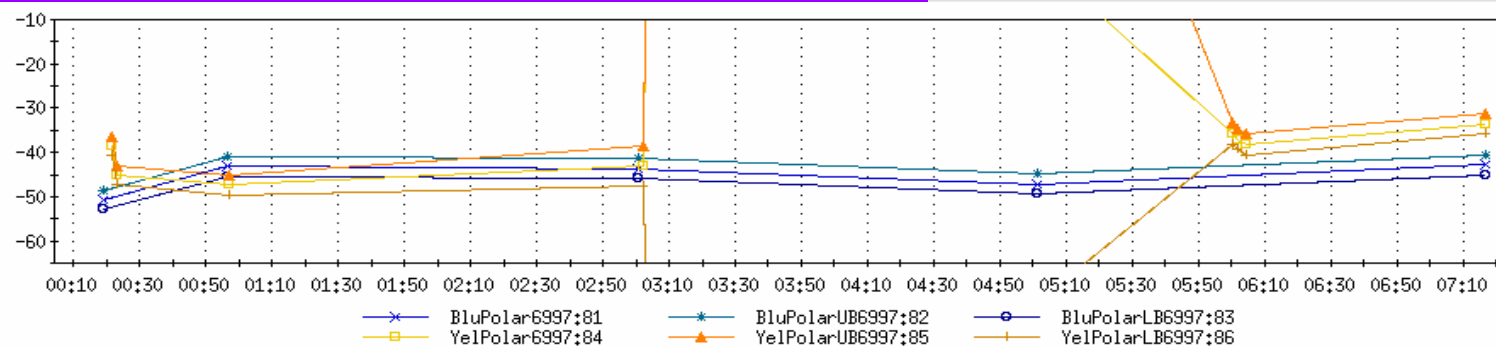
Remaining Issues

- Emittance blowup during the ramp
 - Instability along the ramp: negative chromaticity: corrected
- Poor reproducibility of Yellow lifetime at store
 - Different golden orbit for store
 - Couple of good stores over weekend, but not reproducible

Plan

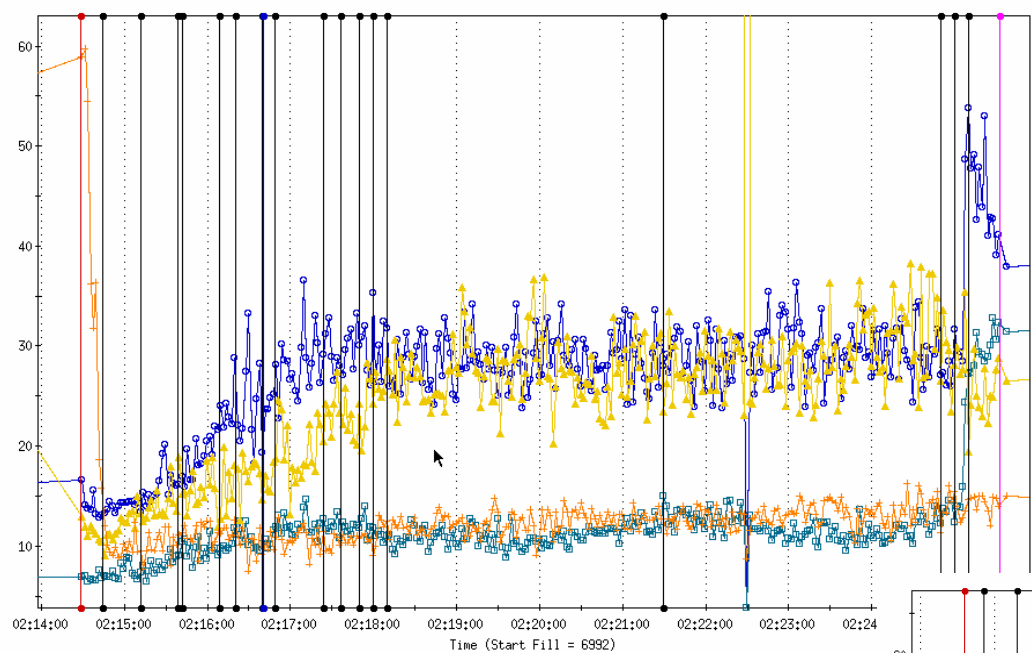
- Machine development to improve the performance
 - Peak Luminosity:
 - bunch intensity maxed out at 1×10^{11} for now
 - Go beyond 56 bunches
 - Eliminate emittance blowup during ramp:
 - Correct the negative chromaticity along the ramp
 - Integrated luminosity
 - Solve the yellow lifetime issue at store
 - Yellow aperture study
 - Yellow non-linear corrector setting

Best store: LP⁴

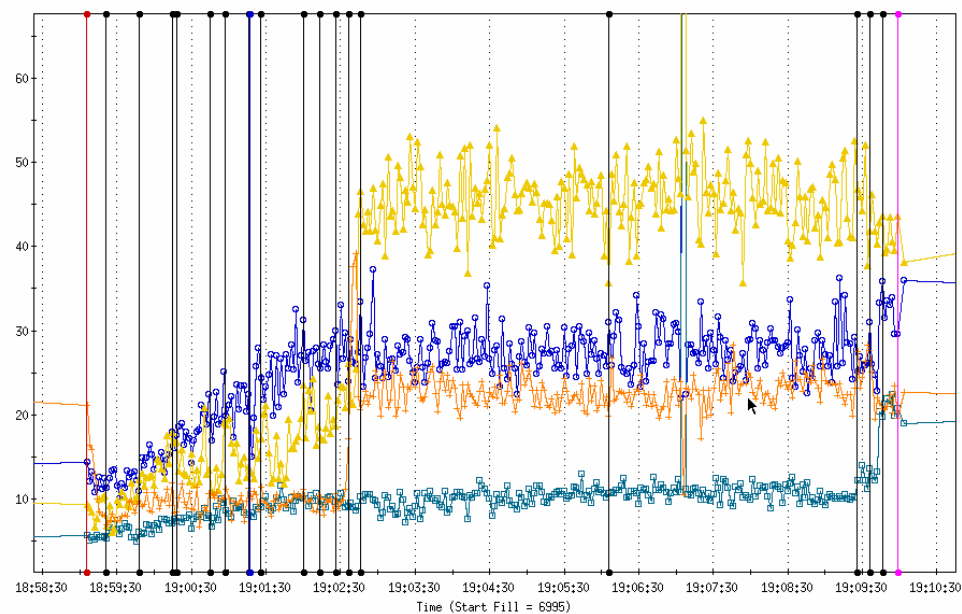


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RhicIpManger.blue_horiz:normEmitt[.]
 RhicIpManger.yellow_vert:normEmitt[.]
 ev-flatop
 softev-physics-on
 RhicIpManger.blue_vert:normEmitt[.]
 ev-accramp
 ev-lumi

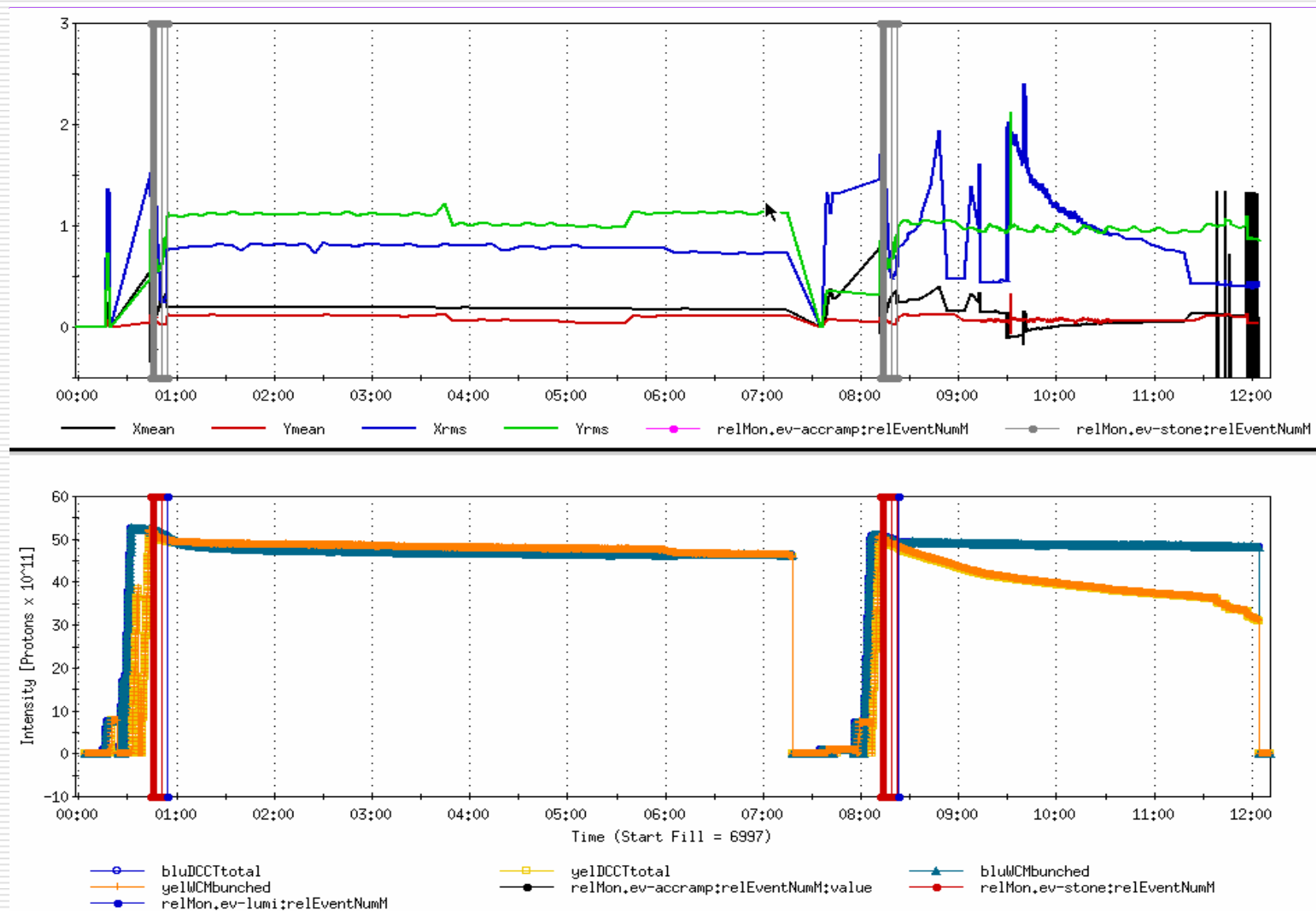


RhicIpManger.blue_horiz:normEmitt[.]
 RhicIpManger.yellow_vert:normEmitt[.]
 ev-flatop
 softev-physics-on
 RhicIpManger.blue_vert:normEmitt[.]
 ev-accramp
 ev-lumi
 RhicIpManger.yellow_horiz:normEmitt[.]
 ev-stone
 ev-endramp

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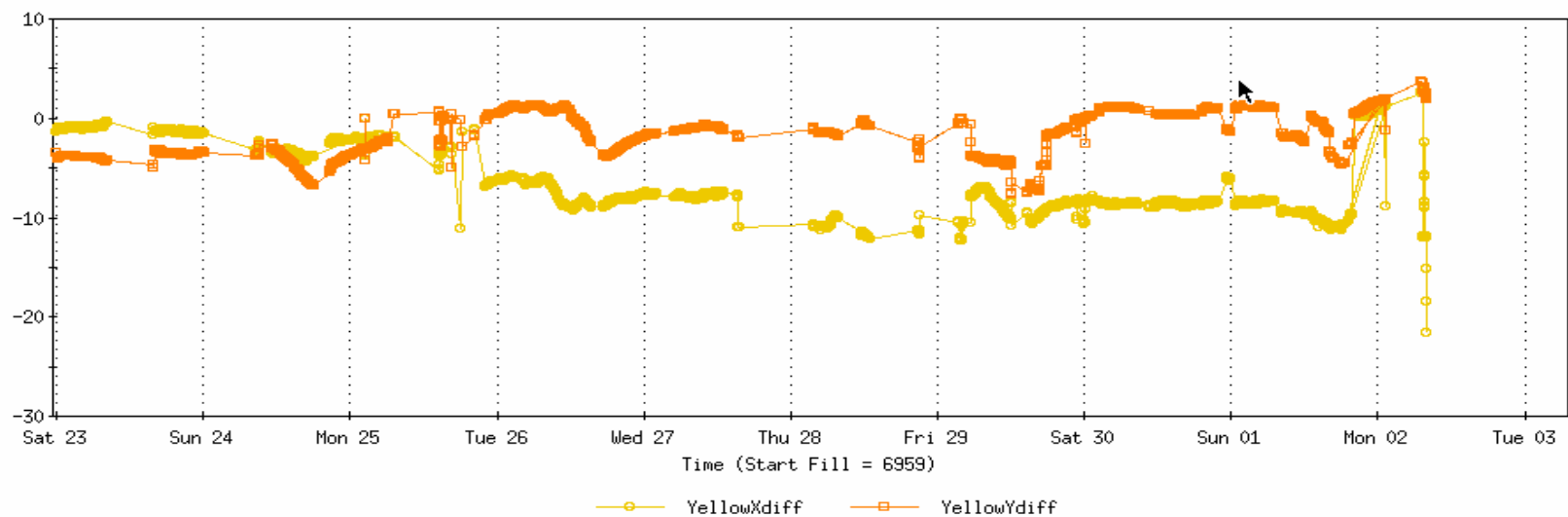
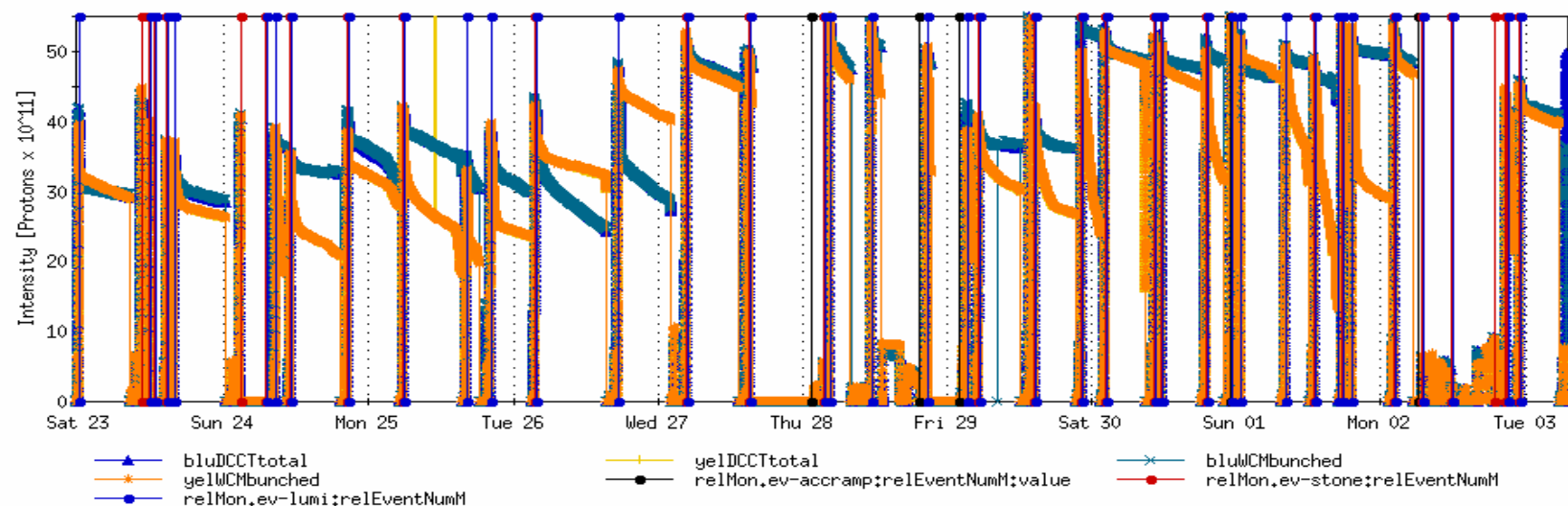
Fill 6997 and Fill 6998



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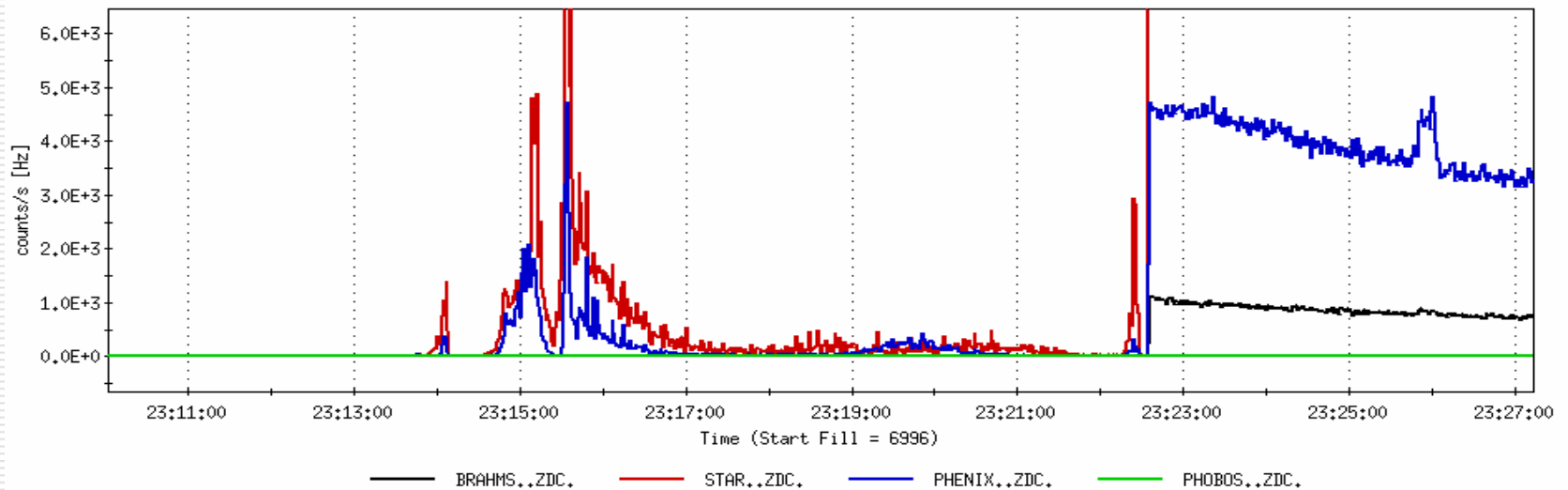
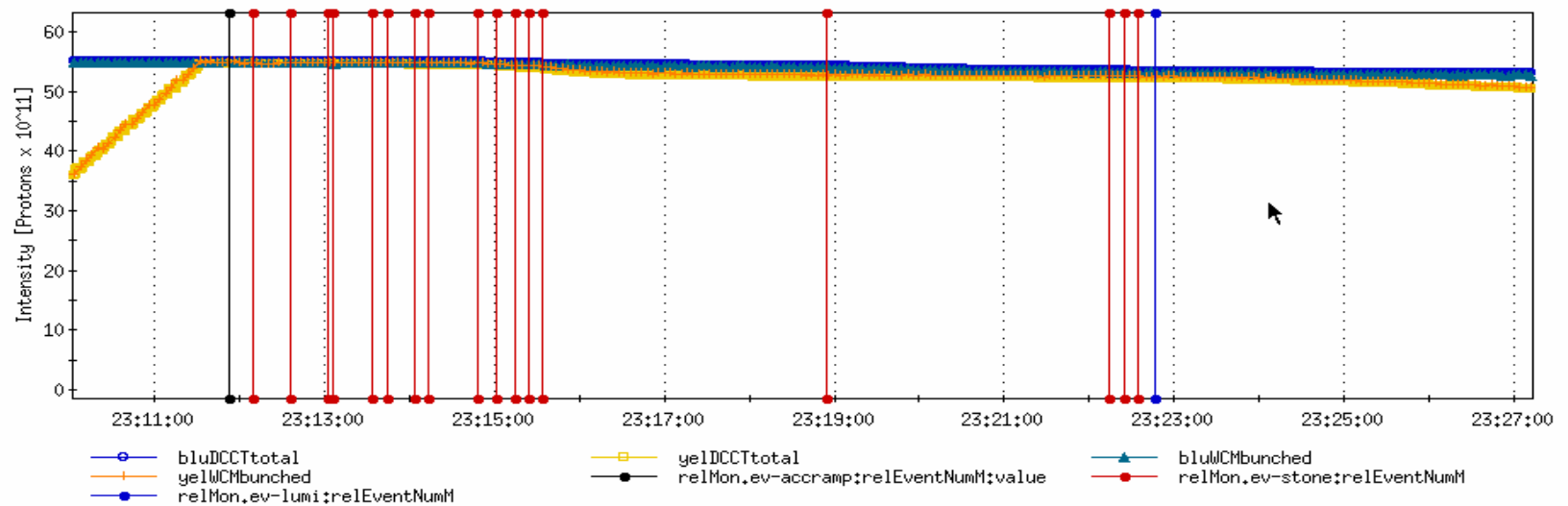
Angle bump at Store



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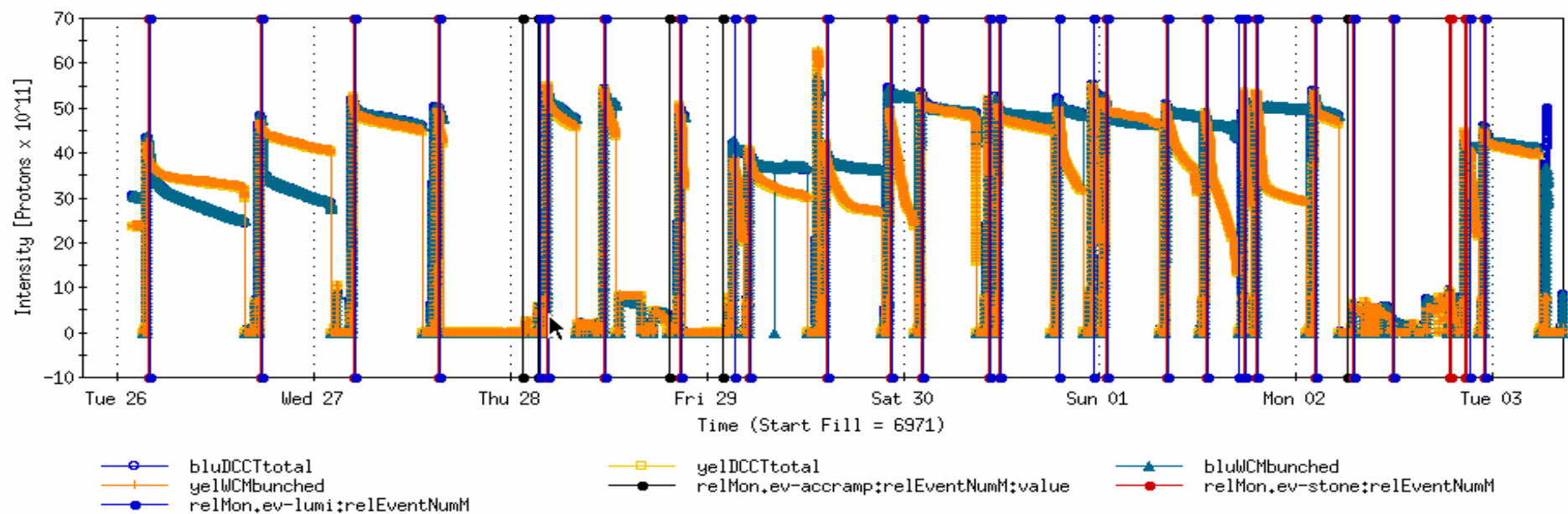
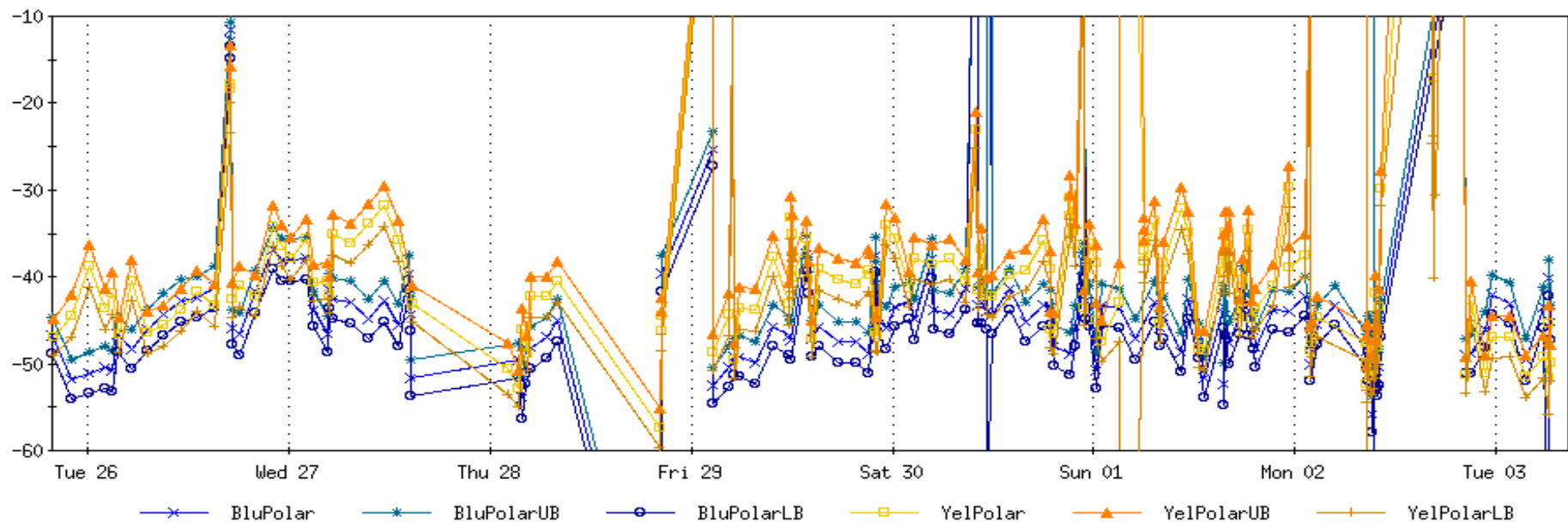
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High peak luminosity



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